Haier SERVICE MANUAL

Order No.AC0909S006V0

Model No. ESA415J

● Feature

- Top Discharge Airflow Pattern
- Modern Family-look Design
- 3 Cool Settings, 3 Fan Settings
- Easy-to-ins tall Mounting Kit
- Easy-Access Washable Filter
- Digital Time & Temperature Display
- 24 Hour on/off Timer

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death

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Haier Group

Table of Contents

1. Product Code Illumination and Series introduction.....2

2. Specifications.....3

3. Safety and Precaution.....4

4. Warning and Cautions.....5

5. Installation and Accessory Parts.....7

6. Parts and Functions.....13

7. Abnormity Diagnose.....17

8. System Flow Chart.....20

9. Circuit Diagram.....21

10. Wiring Diagram.....22

1. Product Code Illumination and Series Introduction

1). Model identification:

ESA □ □□ □
A B C D

A: Abbre viation of Energy Star

B: The type of refrigerant
4:R410A

C: Nominal cooling capacity (BTU/h) with the first two numbers based on one thousand unit

D: Desigh code

Examples:

ESA415J

It represents remote control window air condition r. Cooling capacity is 14500BTU/h and the power supply is 115V/60Hz.

2). Standard situation/conditions

No.	Operating condition	Indoor air state		outdoor air state	
		D.B. ℃	W.B. ℃	D.B. ℃	W.B. ℃
1	Nominal cooling	26.7	19.4	35	23.9

2. Specification

Item			Unit	ESA415J
Cooling capacity			BTU/h	14500
Heating capacity			BTU/h	/
Power supply			Ph,V, Hz	1, 115, 60
Cooling		Power input	W	1350
		Running current	A	12
		EER	BTU/(h.w)	10.7
Heating		Power input	W	/
		Running current	A	/
		COP	BTU/(h.w)	/
Sound Level		Indoor side	dB(A)	54
		Outdoor side	dB(A)	61
Case		Height	inches	16 3/4
		Width	inches	24 3/8
		Depth	inches	23 7/16
Packaging dimensions		Height	inches	20 7/8
		Width	inches	27 1/8
		Depth	inches	28 3/4
Weight		Net	lbs	103
		Gross	lbs	117
Compressor		Type		Rotary
		Model	/	44A321AK-5EKD
		Running cap. For comp	μF	60μF/250V
Pressure		Hi-Pressure	Psig	450
		Low-Pressure	Psig	240
Refrigerant		Model	R22 or R410A	R410A
		Charge	OZ	33.1
Fan	Type	Indoor unit	/	centrifugal
		Outdoor unit	/	axial
	Fan Speed	Indoor unit	r/min	1060/1020/980
Air volume			CFM	380/340/310
Moisture removal			Pints/hr	4.0

3. Safety and Precaution

WARNING: Following these basic precautions will reduce the risk of fire ,electrical shock ,injury or death when using your air conditioner .

1) Air conditioner must be connected to proper electrical outlet with the correct electrical supply .

2) Proper grounding must be ensured to reduce the risk of shock and fire .
DO NOT CUT OR REMOVE THE GROUNDING PRONG.
If you do not have a three-prong electric receptacle outlet in the wall, have a certified electrician install the proper receptacle . The wall receptacle MUST be properly grounded .

3) DO not use if power cord is frayed or damage . Also avoid using if there are cracks or abrasion damage along the length ,plug or connector .

4)DO NOT USE AN ADAPTER OR AN EXTENSION CORD.

5)When installing your air conditioner in a window,make sure the window is strong enough to hold the weight of the air conditioner.You also want to secure and correctly install your air conditioner property to prevent it from falling.Extra brackets or support may be required depending on your window.

6) Do not black airflow inside or outside the air conditioner with blinds,drapes,protective covers,shrubs or bushes.

7)Be careful of sharp edges on the front and rear fins of the unit that could cut and cause serious injury.

8)Be careful when lifting the air conditioner to install or remove the unit . Always use two or more people for this .

9)Always unplug the air conditioner before servicing it or moving it .

4.Warning and Cautions

WARNINGS: Following the safety messages is very important.

These messages can save you from being injured or killed. Warning symbols alert you to be careful and means Danger . Always follow instructions to be safe and reduce chances of injury or death . Warning and Danger signs will precede safety messages.

Electrical Safety

GROUNDING: This room air conditioner must be grounded. Grounding reduces the risk of electric shock by providing an escape wire for the electric current. The power cord has a grounding wire with a grounding plug . Plug it into an outlet that is properly installed and grounded.

WARNING: Improper use of the grounding plug can result in a risk of electric shock.

Call a qualified electrician if you don't understand the grounding instructions or if you are not sure if the air conditioner is properly grounded. If the wall outlet is not grounded, please contact an electrician to have it replaced with a proper grounded outlet.

Do not, under any circumstances, cut or remove the third (ground) prong from the power cord.

Adapter Plug: We strongly advise against using an adapter plug.

TIPS

This air conditioner is designed for use in a double hung window.
While installing unit be sure to tilt air conditioner 5 degrees outward to have the water drip outside the house.
Install the unit on the north side, as that is normal the shaded side. This will enhance the operation of your unit.
The window has to be strong for installation. Extra brackets and/or support may be reqired depending on your window. (Brachets and supports not included in all models.)
Masure the window before installing. If the window is too big for the unit, you may require professional installation.
Use the correct electric voltage and proper ampere for the unit to run effectively.
Only let a certified electrician modify your electrical outlet.
Use a dedicated line fot the operation of your air conditioner to avoid the possibility of an electrical surge.

Energy Saving Guide

When installing your air conditioner, make sure to seal all areas where there is a possibility of air leakage.
The airflow should not be blocked either inside by curtains, drapes or furniture, or outside bu shrubs or bushes.
Do not needlessly use electrical light or other appliances that produce heat.
Keep the blinds and drapes drawn on all other windows.
While cooking, use an exhaust fan in the kitchen to remove the excess heat.
Always use the correct BTU size air conditioner to cool the room to attain optimum efficiency.

5. Installation and Accessory Parts

Check the following before you install your air conditioner:

1) The unit is free of all obstructions inside and outside the room e.g. drapes, curtains, furniture, plants, shrubs, bushes, trees, other structures like building, garage etc.
Air conditioner must have clear unobstructed airflow through the condenser to remove the heat.

2) The window is strong enough to hold the weight of the air conditioner. Extra brackets or supports may be needed depending on your windows. Brackets or supports not not provided in all models.

3) The window sill and track are strong enough to hold the weight of the air conditioner.

4) The wall is strong enough to hold the unit. Extra brackets or supports may be needed depending on the wall. (Brackets or Supports not provided in all models).

5) There is adequate and proper power supply near the air conditioner.

6) DO NOT use adopter plugs.

7) DO NOT use extension cords.

8) DO NOT cut or remove the ground prong.

9) DO NOT modify the plug or the electrical wall outlet in any way. If plug does not fit the electrical outlet have a certified electrician do the necessary change.

10) NOT connect electrical power to the unit before installation.

11) DO NOT use if power cord is worn out, hayed or damage. Avoid using if here are cracks or abrasion damage along the length, plug or connection.

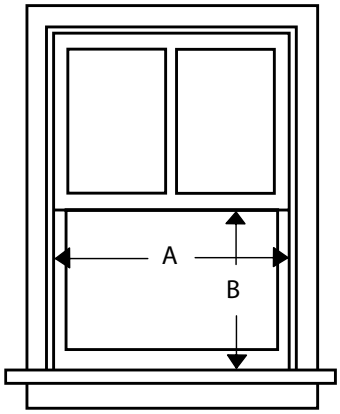
12) DO NOT install into any existing cabinet or sleeve which does not have ride and top air vents.

13) Be careful of exposed sharp edges of the cabinet and sharp coils (fins) on the back of the unit that could cut and cause serious injury.

Window Installation

Window opening measurements:

- 28 3⁄8 ” minimum to 38” (72.1 cm to 96.5 cm) maximum opening width.
- 17 3⁄8 ” (44.1 cm) minimum opening height.



A. 28⅜” (72.1 cm) minimum

B. 17⅜” (44.1 cm) minimum

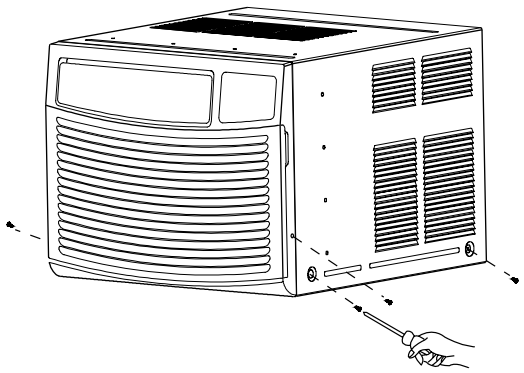
Prepare Air Conditioner for Installation

Prepare unit for installation

Unpack unit on the floor next to installationlocation.

1. Remove two front attachment screws.Separate the outer case from the front with a putty knife at the catch points designated by the arrows.
2. Remove the two screws on top of the outer case.
3. Using the basepan handle, slowly and evenly pull chassis out from outer case.

NOTE: Cover putty knife blade with masking tape to guard against damage of the unit finish.



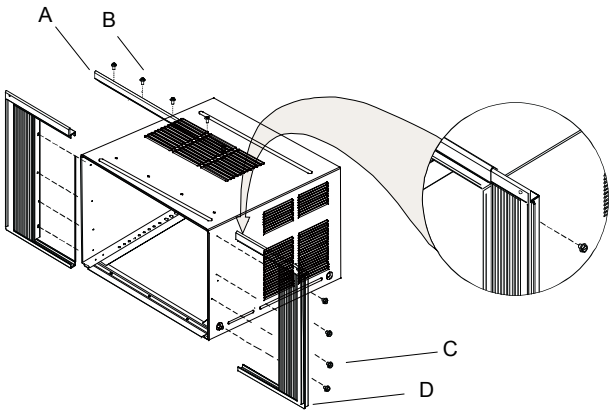
CAUTION:

Never expose plastic front or grille to extreme temperatures.

Assemble Curtain/Top channel

NOTE:Attach curtains to the air conditioner before placing the air conditioner in window.

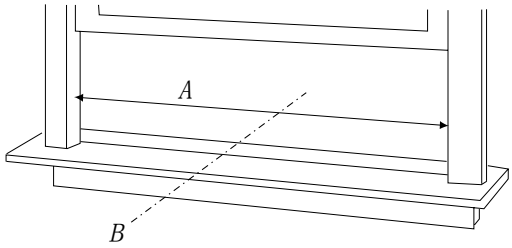
1. Install top channel with four 13/32” screws.
2. Slide left-hand curtain assembly into left end of top and bottom channels. Repeat for right-hand curtain assembly.
3. Fasten curtain retainer strips to the sides of the outer case with eight 13/32” screws.



A. Top channel
B. 13/32” screws
C. 13/32” screws
D. Side curtains

Prepare Window for Installation

1. Measure the width of the window opening.
2. Mark the center line on the inside windowsill.

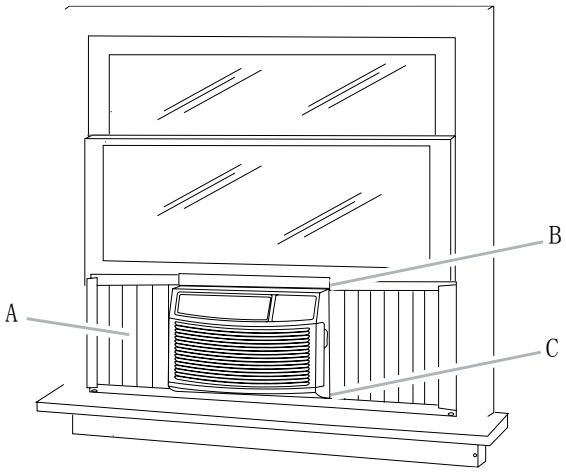


A. Width of window opening
B. Center line

Position Air Conditioner

NOTES:

- Handle the air conditioner gently.
- Be sure your air conditioner does not fall out of the opening during installation or removal.
- The place where the power cord exits the air conditioner should be no more than 4 ft (122 cm) from a grounded outlet.
- Do not block the louvers in the front panel.
- Do not block the louvers on the outside of the air conditioner.

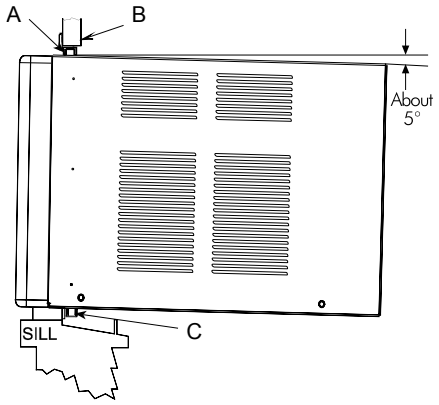


A. Side curtain against window channel
B. Window sash behind top channel
C. Bottom channel in behind windowsill

NOTE:Your model may differ from the one shown.

Install outer case in window

1. Place outer case in window. Lower sash until it rests behind front flange of top channel. Bottom channel must rest behind window sill.

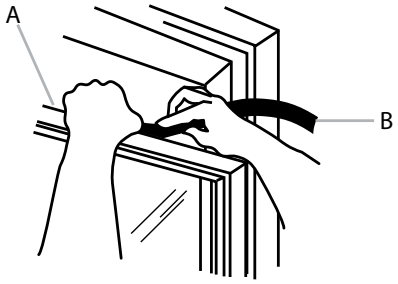


A. Top channel
B. Window sash
C. Bottom channel

3. Expand both curtains to contact the window frame. Install four wood screws 31/32”. Two in each upper right and left of the curtains.
4. Use three wood screws 31/32” to fix the case to windows sash.

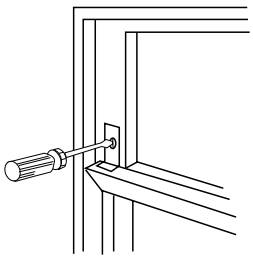
Complete Installation

1. Insert the foam seal behind the top of the lower window sash and against the glass of the upper window.



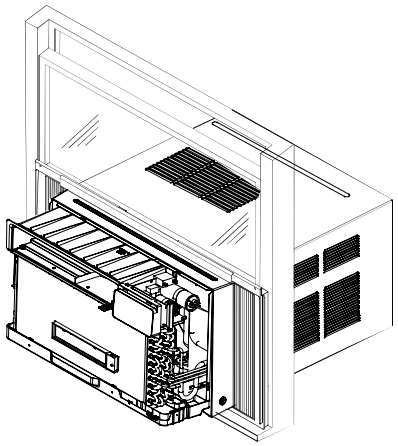
A. Top of lower window sash
B. Foam seal

2. Place the window lock bracket as shown. Use a 1/8" drill bit to drill a starter hole through the hole in the window lock bracket and into the upper window.
3. Attach the window lock bracket to the upper window with one 31/32" screw to secure the window in place.
4. Plug into a grounded 3 prong outlet.
5. Press RESET on the power supply cord. See "Electrical Requirements."



Return chassis to the outer case

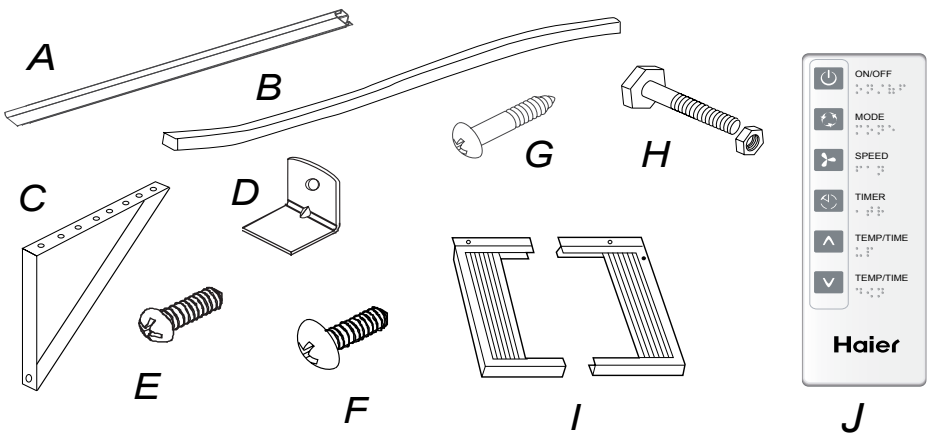
Find someone to help you replace the chassis in outer case.
Replace front panel and grille.



CAUTION: For security purposes, reinstall screws at cabinet's sides, removed in step one.

IMPORTANT: Because the window sash helps keep the unit in window, make certain the window sash contacts the outer case

Parts



A. Top channel
B. Foam seal
C. Installation brackets (left and right)
D. Window lock bracket
E. *13/32"* screws (12)
F. *13/32"* bracket screws (6)
G. *31/32"* screws (8)
H. 1/2" Long flat head bolt and locknut(2)
I. Left and right side curtains
J. Remote control

Tools

Gather the required tools and parts before starting installation. Read and follow the instructions provided with any tools listed here.

- Phillips screwdriver
- Flat-blade screwdriver
- Scissors
- Level
- Socket wrench and sockets
- Tape measure
- Cordless drill and 1⁄8" bit
- Pencil
- Pliers
- Adjustable wrench

6. Parts and Functions

Mode

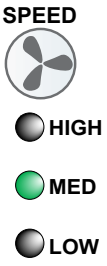
1. Press MODE until you see the indicator light glow for the desired setting.
2. Choose Fan, Cool, Energy Saver or Dehum.
   - Fan—Only the fan runs. Press SPEED to select High, Med or Low fan speed. The display shows the current room temperature.
   - Cool—Cools the room. Press SPEED to select High, Med or Low fan speed. Press the TEMP/TIME up or down arrow button to adjust the temperature.
   - Energy Saver—Fan runs only when cooling is needed. Press SPEED to select High, Med or Low fan speed. Because the fan does not circulate the room air continuously,less energy is used, but the room air is not circulated as often.
   - Dehum—Dries the room. The air conditioner automatically selects the temperature. Fan runs on Low speed only.
     NOTE:Dehum mode should not be used to cool the room.

NOTE:After 5 seconds, display will show the current room temperature.

Fan Speed

NOTE:In Dehum mode, the Speed button will not operate.

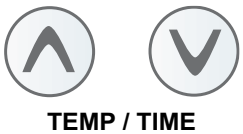
1. Press FAN SPEED until you see the indicator light glow for the desired setting.
2. Choose High, Med or Low.
   - High—for maximum cooling
   - Med—for normal cooling
   - Low—for minimum cooling



NOTE:After 5 seconds, the display will show the current room temperature.

Temperature

(1) Press the TEMP/TIME up arrow button to raise the temperature. Each time you press or hold the TEMP/TIME up arrow button, the temperature will go up 1ºF until it reaches 86°F (30°C).
NOTE: After 5 seconds, the display will show the current room temperature.



(2) Press the TEMP/TIME down arrow button to lower the temperature. Each time you press or hold the TEMP/TIME down arrow button, the temperature will go down 1ºF until it reaches 61°F (16°C).

NOTE:After 5 seconds, the display will show the current room temperature.

Timer Delay

To set the Timer for a 1-hour to 24-hour delay until the air conditioner turns off (the air conditioner must be On):

1. Press TIMER. Timer On indicator light will flash. Display will show remaining hours before the air conditioner will turn off.

2. Press the TEMP/TIME up or down arrow button to change the delay time from 1 hour to 24 hours.
3. After 5 seconds, Timer On indicator light will remain on.Display will show the current room temperature.

To set the Timer to turn on the air conditioner, keeping previous settings:

1. Turn on the air conditioner.
2. Press TIMER. Timer On indicator light will flash. Display will show remaining hours before the air conditioner will turn on.
3. Press the TEMP/TIME up or down arrow button to change the delay time from 1 hour to 24 hours.
4. After 5 seconds, Timer On indicator light will remain on.Display will show the current room temperature.

To set the Timer to turn on the air conditioner, changing the previous settings:

1. Turn on the air conditioner.
2. Adjust the mode to Fan, Cool, Energy Saver or Dehum.
3. For Fan, Cool or Energy Saver mode, adjust the fan speed to High, Med or Low.
   NOTE: In Dehum mode, the Speed button will not operate.
4. Adjust the temperature between 61ºF and 86ºF (16ºC and 30ºC).
   NOTE:In Fan mode, the temperature cannot be set.
5. Wait 3 seconds before turning off the air conditioner.
6. Press TIMER. Timer On indicator light will flash. Display will show remaining hours before the air conditioner will turn on.
7. Press the TEMP/TIME up or down arrow button to change the delay time from 1 hour to 24 hours.
8. After 5 seconds, Timer On indicator light will remain on.Display will show the current room temperature.

To clear Timer delay program:

NOTE:Air conditioner can be either on or off.

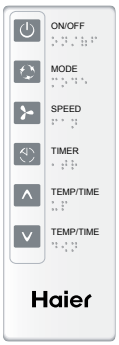
1. Press TIMER once after it has been programmed. Display will show remaining time.
2. While the display is showing the remaining time, press TIMER again. Timer Off indicator light will turn on.

To see or change the remaining time (in hours):

1. Press TIMER once after it has been programmed. Display will show remaining time.
2. While the display is showing the remaining time, press the up or down TEMP/TIME button to increase or decrease the time.
3. After 5 seconds, the display will show the current room temperature.

Using the Remote Cotrol

NOTE:Remote control may differ in appearance.



NOTE: One CR2025 battery (included) powers the remote control. Replace battery after 6 months of use, or when the remote control starts to lose power.

Power

Press ON/OFF to turn on the air conditioner.

Mode

Press MODE to choose Fan, Cool, Energy Saver or Dehum.

Speed

Press SPEED to choose High, Med or Low.

Temperature

(1) Press theTEMP/TIME up arrow button to raise the temperature. Each time you press or hold the TEMP/TIME up arrow button, the temperature will go up 2ºF (1ºC) until it reaches 86°F (30°C).

(2) Press theTEMP/TIME down arrow button to lower the temperature. Each time you press or hold the TEMP/TIME down arrow button, the temperature will go down 2ºF (1ºC) until it reaches 61°F (16°C).

Timer

To set the Timer for a Z to 24-hour delay before the air conditioner is turned off (the air conditioner must be On):

1.PressTIMER.Timer On indicator light on the air conditioner control panel will flash.

2. Press the TEMP/TIME up or down arrow button to change the delay time from 1 hour to 24 hours.
3. After 5 seconds,Timer On indicator light on the air conditioner control panel will remain on.

To set Timer to turn on the air conditioner , keeping previous settings:

1. Turn on the air conditioner.
2. PressTIMER.Timer On indicator light on the air conditioner control panel will flash.
3. Press theTEMP/TIME up or down arrow button to change the delay time from 1 hour to 24 hours.
4. After 5 seconds,Timer On indicator light on the air conditioner control panel will remain on.

To set Timer to turn on the air conditioner , changing the

previous settings:

1. Turn on the air conditione
2. Adjust the mode to Fan, Cool, Energy Saver or Dehum.
3. For Fan, Cool or Energy Saver mode, adjust the fan speed to High, Med or Low.

   NOTE: In Dehum mode, the Speed button will not operate.
4. Adjust the temperature between 61ºF and 86ºF (16ºC and 30ºC).

   NOTE:In Fan mode, the temperature cannot be set.
5. Wait 3 seconds before turning off the air conditioner.
6. Press TIMER. Timer On indicator light on the air conditioner control panel will flash. Display will show remaining hours before the air conditioner will turn on.
7. Press the TEMP/TIME up or down arrow button to change the delay time from 1 hour to 24 hours.
8. After 5 seconds, Timer On indicator light on the air conditioner control panel will remain on. Display will show the current room temperature.

To clear Timer delay program:

NOTE:Air conditioner can be either on or off.

1. Press TIMER once after it has been programmed. Display on the air conditioner control panel will show remaining time.
2. While the display is showing the remaining time, press TIMER again. Timer Off indicator light will turn on.

To see or change the remaining time (in hours):

1. Press TIMER once after it has been programmed. Display on the air conditioner control panel will show remaining time.
2. While the display is showing the remaining time, press the TEMP/TIME up or down arrow button to increase or decrease the time.
3. After 5 seconds, the display on the air conditioner control panel will show the current room temperature.

7. Abnormity Diagnose

If air conditioner does not operate:

Check if unit is plugged in. The plug may have come loose.

Check if the unit is in the :Off" mode.

Air from air conditioner is warm:

The A/C setting may need to be raised.

Ice formation on cooling coils:

The outside temperature is too cold. Set the unit on "fan only" setting to defrost ice.

The temperature setting may be too cold.

The unit BTU may be too high for the room.

Air conditioner is working but room is not cooling:

The room may have appliances that produce heat. Use an exhaust fan to remove excess heat.
Redirect the airflow. Remove any obstacles.

All doors and windows need to be closed so cool air does not escape the room.

The air filter may need cleaning.

The unit BTU may be too low for the required cooling area.

On extreme hot & humid days, air conditioners may take a little longer to cool.

Vent may be in the open position. Vent has to be closed for optimum cooling.

Air conditioner is making noise when cooling:

You may hear sounds of air movement, water, compressor clicking on and off or window vibrations.

Please read Operating Guide - Normal Operating Sounds.

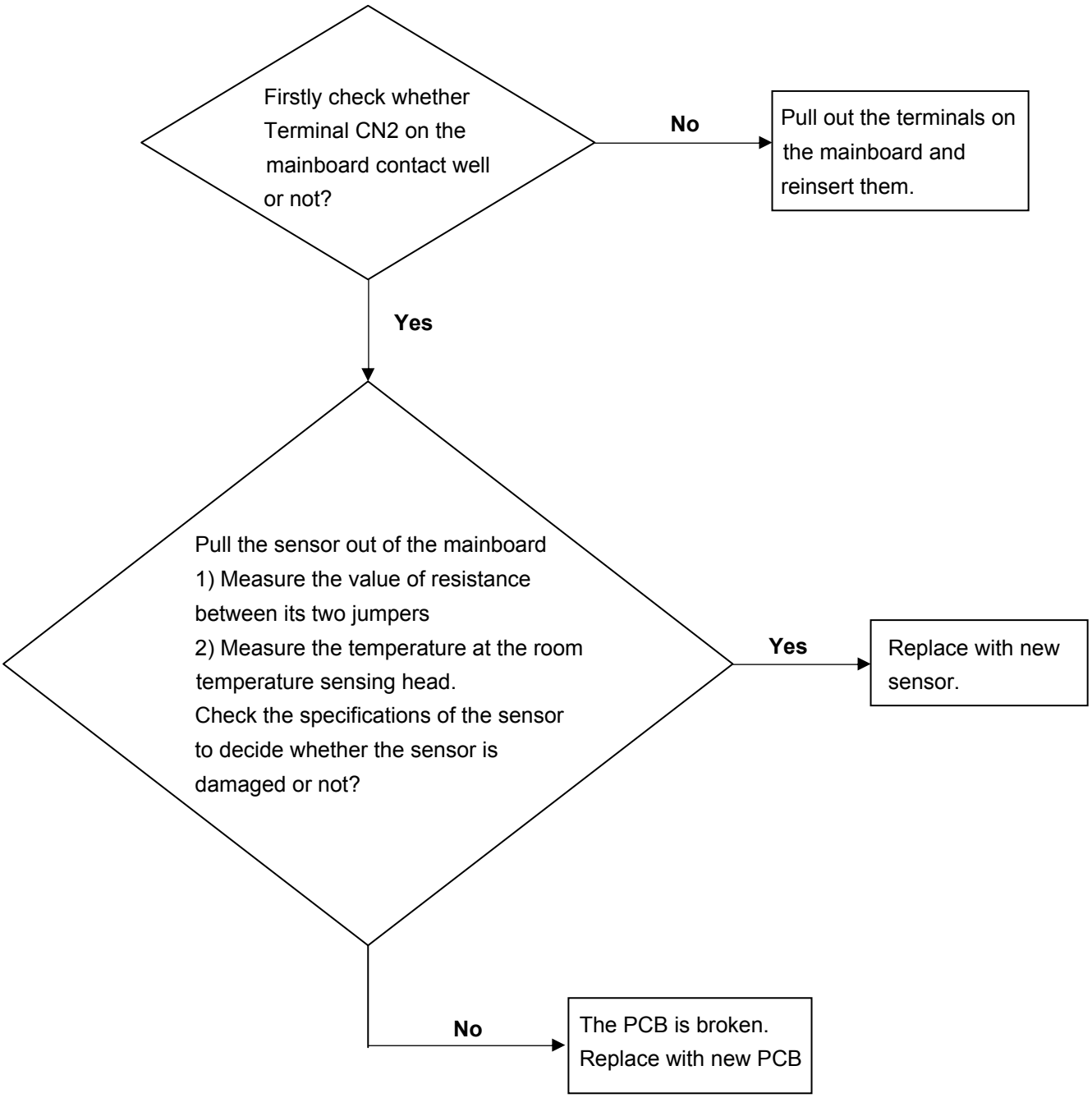
Water in the air conditioner cabinet:

This is normal, as your air conditioner not only cools but also dehumidifies the air. If there is water dripping inside the room, check the installation of the unit. The unit may need to be reinstalled.

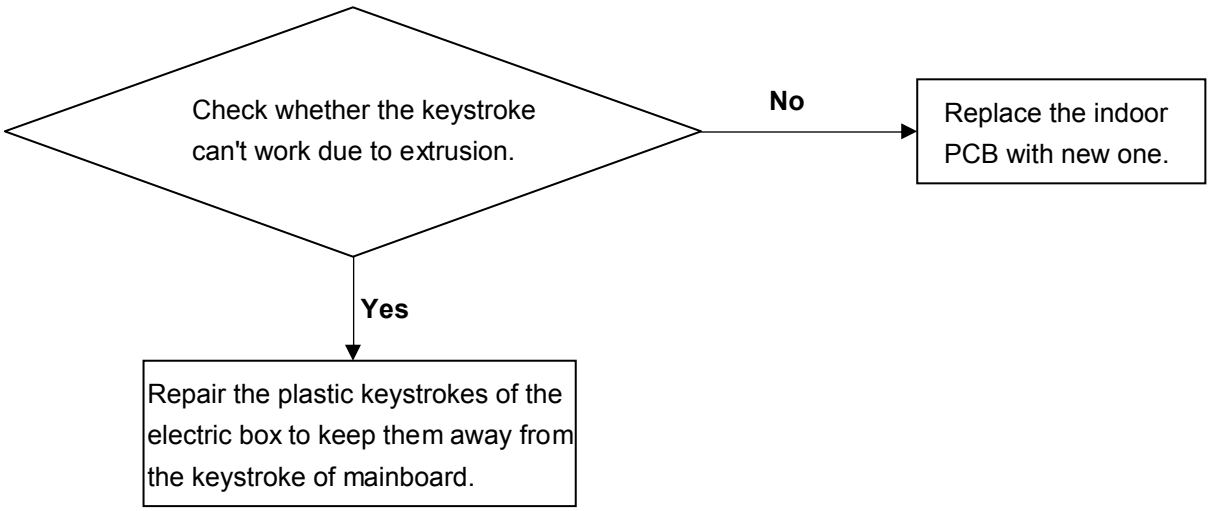
Trouble shooting:

Indoor	Possible Reasons
E0	1) Room-temperature sensor is broken. 2) Indoor PCB is damaged.
E1	1) Connection is bad. 2) Indoor PCB is damaged.

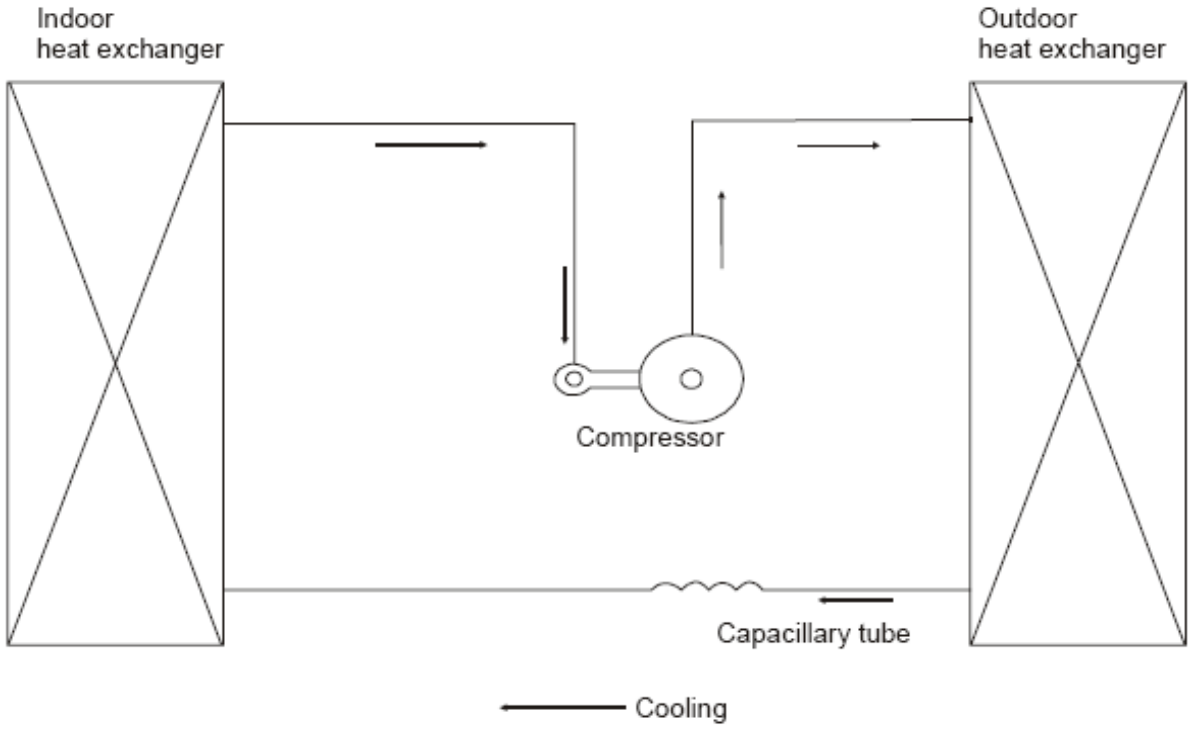
E0: Room temperature sensor malfunction


Firstly check whether Terminal CN2 on the mainboard contact well or not?
No
Pull out the terminals on the mainboard and reinsert them.
Yes
Pull the sensor out of the mainboard
1) Measure the value of resistance between its two jumpers
2) Measure the temperature at the room temperature sensing head.
Check the specifications of the sensor to decide whether the sensor is damaged or not?
Yes
Replace with new sensor.
No
The PCB is broken.
Replace with new PCB

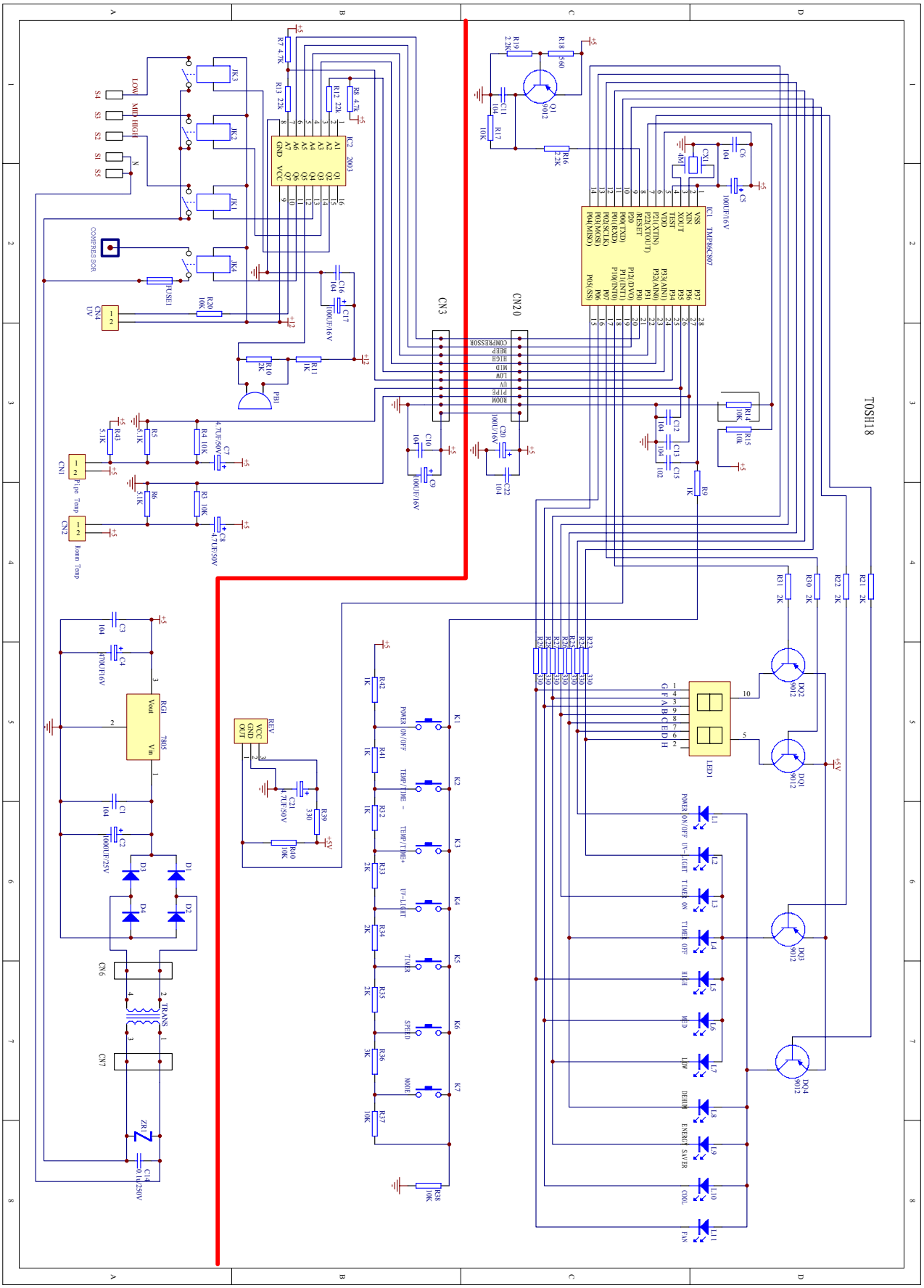
E1: Bottom malfunctions


Check whether the keystroke can't work due to extrusion.
No
Replace the indoor PCB with new one.
Yes
Repair the plastic keystrokes of the electric box to keep them away from the keystroke of mainboard.

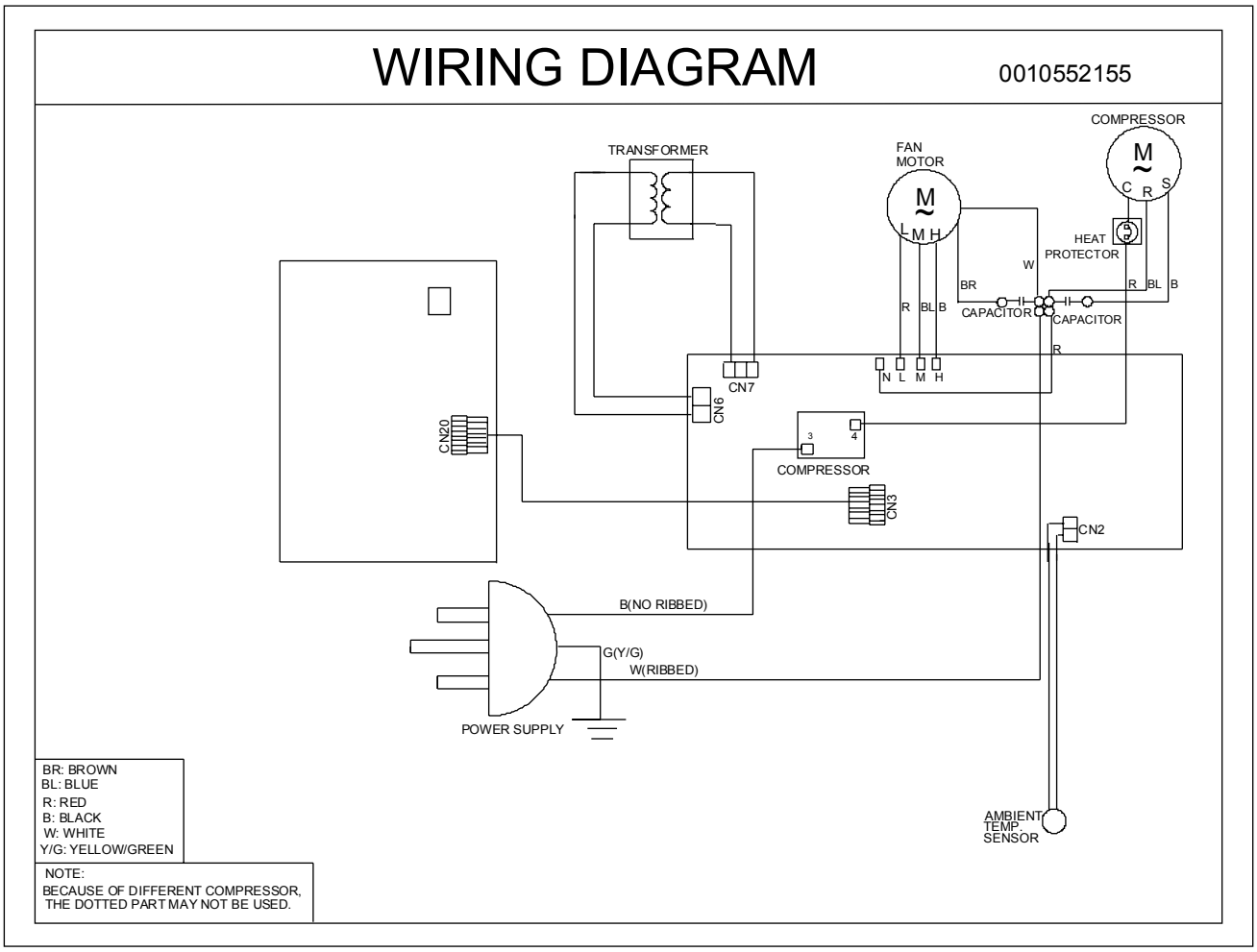
8. System Flow Chart



9. Circuit Diagram



10. Wiring Diagram



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